



DICHLORODIFLUOROMETHANE (FC-12)

What is DICHLORODIFLUOROMETHANE (FC-12)?

Dichlorodifluoromethane can be a colorless liquid or a gas. Dichlorodifluoromethane, also called FC-12, has an ether-like odor. It is a liquid at temperatures below 75° F. However, it becomes a gas at temperatures above 75° F.

Where can dichlorodifluoromethane be found and how is it used?

Dichlorodifluoromethane is used as a refrigerant gas in refrigerators and air conditioners. Dichlorodifluoromethane is also used in aerosol sprays, in plastics, and as an aid in detecting leaks. Dichlorodifluoromethane harms the ozone layer, which protects the earth from the sun's ultraviolet radiation. Although dichlorodifluoromethane is no longer made in the United States, existing stocks are allowed to be used. This product is still made in other countries, including China.

How can people be exposed to dichlorodifluoromethane?

You could be exposed to dichlorodifluoromethane through:

Breathing it if you are near a waste site containing dichlorodifluoromethane. You can also breathe it when it turns into a vapor from polluted water, or leaks from an old refrigerator or an air conditioner can also cause exposure through breathing. Persons servicing this equipment can also be exposed to dichlorodifluoromethane.

Drinking it in polluted water containing dichlorodifluoromethane.

Touching water containing dichlorodifluoromethane. It is unlikely to touch liquid dichlorodifluoromethane since it is contained in closed systems. If the closed system leaks, then you could touch it directly.

Eye Contact by touching the eyes with water containing dichlorodifluoromethane. Direct eye contact is unlikely.

How does dichlorodifluoromethane work and how can it affect my health?

Exposure to high levels of the gas can cause an irregular heartbeat or heart failure that can be fatal.

Short-term health effects to dichlorodifluoromethane include irritated eyes and burning skin. Direct contact with the liquid causes severe eye pain and frostbite. Breathing the gas irritates the mouth, nose and throat. Exposure causes dizziness, lightheadedness, and concentration problems. These symptoms may occur immediately or shortly after exposure.

Dichlorodifluoromethane has not been shown to cause cancer in animals, nor has it been shown to affect reproduction in animals. Some data indicates that long-term exposure can cause liver damage in humans.

How is dichlorodifluoromethane poisoning treated?

There is no treatment for dichlorodifluoromethane poisoning. A doctor will treat the symptoms.



Frequently Asked Questions

What should I do if exposed to dichlorodifluoromethane?

If you touch dichlorodifluoromethane, wash your skin with water until all of the chemical is removed. Frostbite victims must get medical help immediately. Do NOT rub affected areas or flush them with water. Do NOT attempt to remove frozen clothing from frostbitten areas.

If you get dichlorodifluoromethane in your eyes, flush your eyes with large amounts of water for at least 15 minutes. Get medical help as soon as possible.

If you breathe dichlorodifluoromethane, get to fresh air right away. If breathing has stopped, artificial respiration should be given. Get medical help.

If you swallow dichlorodifluoromethane, do not vomit. Get medical help.

What factors limit use or exposure to dichlorodifluoromethane?

If drinking water is polluted with dichlorodifluoromethane, use bottled water or another water source and avoid bathing and cleaning using the contaminated water.

Is there a medical test to show whether I've been exposed to dichlorodifluoromethane?

If you think you were exposed to dichlorodifluoromethane, physicians can order a test to check for an irregular heartbeat. Your physician will determine whether the cause of an irregular heartbeat is related to dichlorodifluoromethane exposure.

Technical information for dichlorodifluoromethane

CAS Number: 75-71-8

Chemical Formula: CCl_2F_2

Carcinogenicity (EPA): Not Classified

MCL (Drinking Water): There is no MCL for dichlorodifluoromethane.

OSHA Standards: 1,000 ppm (4,950 mg/m³) 8 hour per day, 40 hour week.

NIOSH Standards: 1,000 ppm (4,950 mg/m³) 8 hour per day, 40 hour week.

References and Sources

American Conference of Governmental Industrial Hygienists (ACGIH). 2003. *Guide to Occupational Exposure Values*. Cincinnati, OH.

NIOSH Pocket Guide to Chemical Hazards. 2003. Atlanta, GA: U.S. Department of Health and Human Services. <http://www.cdc.gov/niosh/ipcsneng/neng0048.html>

<http://www.cdc.gov/niosh/npg/firstaid.html>

<http://www.eia.doe.gov/oiaf/1605/87-92rpt/chap5.html>